AMENDMENTS TO THE CLAIMS

Please amend the claims as follows:

1-16.   (Canceled)

17.   (Previously Presented) A method for measuring current flow through a living body, comprising:

      measuring a voltage between a first contact located at a first position on a living body and a second contact located at a second position on the living body;

      providing a known impedance, separately from said measuring, between said first position and said second position for the living body; and

      calculating the current flow associated with said voltage.

18.   (Currently Amended) A method for measuring current flow through a living body, consisting essentially of:

      attaching a first contact to a living body at a first position;

      attaching a second contact to the living body at a second position;

      measuring a voltage between said first contact and said second contact;

      <u>conditioning the voltage measured between said first contact and said second contact with data conditioning circuitry to produce a conditioned voltage;</u>

      providing a known impedance between said first position and said second position for the living body, <u>wherein the known impedance is stored in a computer readable memory</u>; and

      calculating the current flow ~~associated with said~~ <u>using the conditioned</u> voltage <u>and the known impedance stored in the computer readable memory</u>.

19.   (Canceled)

20.   (Currently Amended) A method for measuring current flow in a living body, comprising:

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measuring a voltage between a first position and a second position on a living body;

conditioning the voltage measured between the first position and the second position on a living body with data conditioning circuitry comprising an electronic filter to produce a conditioned voltage;

providing generic body impedance data stored in a computer readable memory; and

calculating a current flow in the living body based upon said conditioned voltage and said generic body impedance data stored in the computer readable memory.

21.   (Previously Presented) The method of claim 20 further comprising attaching to the living body a first contact at said first position and a second contact at said second position.

22.   (Previously Presented) The method of claim 20, wherein said measuring measures said voltage without separately applying a current to the living body.

23.   (Currently Amended) The method of claim 20, further comprising:

storing said ~~measured~~ conditioned voltage in a removable memory card; and

calculating said current flow based upon ~~said measured~~ the conditioned voltage stored in said removable memory card.

24.   (Currently Amended) A method for measuring current flow in a living body, comprising:

measuring a voltage between a first position and a second position on a living body without separately applying a current;

conditioning the measured voltage with data conditioning circuitry comprising an electronic filter to produce a conditioned voltage;

providing body impedance data stored in a computer readable memory; and

calculating a current flow in the living body based upon ~~said~~ the conditioned voltage and said body impedance data stored in the computer readable memory.

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25.   (Currently Amended) The method of claim 24, wherein said ~~providing~~ <u>body impedance data</u> comprises ~~providing~~ estimated body impedance data.

26.   (Currently Amended) The method of claim 24, wherein said ~~providing~~ <u>body impedance data</u> comprises ~~providing~~ previously calculated body impedance measurements between said first position and said second position for the living body.

27.   (Currently Amended) The method of claim 24 further comprising:

storing said ~~measured~~ <u>conditioned</u> voltage in a removable memory card; and

calculating said current flow based upon said ~~measured~~ <u>conditioned</u> voltage stored in said removable memory card.

28.   (Currently Amended) A method for measuring contact current in a living body, comprising:

measuring a voltage between a first position and a second position on a living body <u>without separately applying a current</u>, wherein said voltage is associated with a contact current flowing in the living body;

providing body impedance data;

calculating a current flow for the contact current flowing in the living body based upon said voltage and said body impedance data.

29.   (Currently Amended) The method of claim 28, wherein said ~~providing~~ <u>body impedance data</u> comprises ~~providing~~ estimated body impedance data.

30.   (Currently Amended) The method of claim 28, wherein said ~~providing~~ <u>body impedance data</u> comprises ~~providing~~ previously calculated body impedance measurements between said first position and said second position for the living body.

31.   (Previously Presented) The method of claim 28 further comprising:

storing said measured voltage in a removable memory card; and

calculating said current flow based upon said measured voltage stored in said removable memory card.

32.   (New) The method of claim 17, further comprising:
        conditioning the measured voltage with data conditioning circuitry comprising an electronic filter to provide a conditioned voltage; and
        calculating the current flow using the conditioned voltage and the known impedance.

33.   (New) The method of claim 32, wherein the data conditioning circuitry further comprises an adjustable threshold detector.

34.   (New) The method of claim 17, wherein the known impedance is stored in a computer readable memory.

35.   (New) The method of claim 17, wherein calculating the current flow further comprises executing an executable program stored in a computer readable memory.

36.   (New) The method of claim 18, wherein the data conditioning circuitry comprises an adjustable threshold detector.

37.   (New) The method of claim 20, wherein conditioning the measured voltage further comprises digitizing the measured voltage signal using an analog to digital converter.

38.   (New) The method of claim 20, wherein the data conditioning circuitry further comprises an adjustable threshold detector.

39.   (New) The method of claim 24, wherein the data conditioning circuitry further comprises an adjustable threshold detector.

40.   (New) The method of claim 28, further comprising:

conditioning the measured voltage with data conditioning circuitry comprising an electronic filter to provide a conditioned voltage; and

calculating a current flow for the contact current flowing in the living body based upon said conditioned voltage and said body impedance data.

41.   (New) The method of 40, wherein the data conditioning circuitry further comprises an adjustable threshold detector.

42.   (New) The method of claim 28, wherein calculating the contact current flow further comprises executing an executable program stored in a computer readable memory.